

Application Number 10/540659
Response to the Office Action dated January 26, 2009

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APR 27 2009

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1 - 17. (Canceled)

18. (Currently Amended) A polyimide precursor liquid composition, comprising:

at least one type of tetracarboxylic dianhydride or derivative thereof;

at least one type of diamine or derivative thereof; and

a polar polymerization solvent;

wherein the polyimide precursor liquid composition further includes a cyclic compound that is different from the polar polymerization solvent and has a 5 member ring structure that includes a carbonyl group (C=O bond);

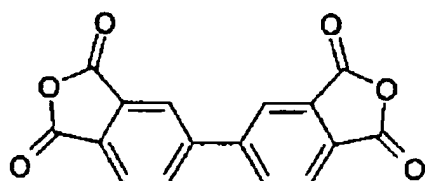
wherein the cyclic compound has a boiling point of 200°C or higher, comprises carbon, hydrogen and oxygen atoms, does not include hetero atoms of nitrogen, phosphorous and sulfur, and is at least one selected from the group consisting of ethylene carbonate, propylene carbonate, butylene carbonate and γ -butyrolactone, and is present in an amount that prevents discoloration of a polyimide produced from the polyimide precursor;

wherein the tetracarboxylic dianhydride comprises a compound 3,3',4,4'-biphenyl tetracarboxylic dianhydride (BPDA) expressed by chemical formula A' and a compound 2,2-bis[3,4-(dicarboxyphenoxy)phenyl] propane dianhydride (BPADA) expressed by chemical formula B', where a molar ratio of the BPDA in the tetracarboxylic dianhydride is from 50 mol% to 90 mol% and a molar ratio of the BPADA in the tetracarboxylic dianhydride is from 10 mol% to 50 mol%; and

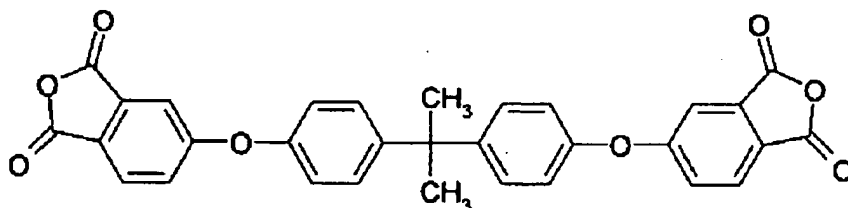
wherein the diamine is at least one compound selected from those expressed by chemical formula 3

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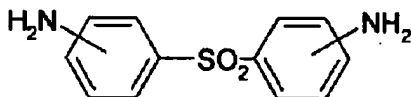
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Formula A'



Formula B'



Formula 3.

19. (Previously Presented) The polyimide precursor liquid composition according to claim 18,

wherein when the solids portion of the polyimide precursor liquid is 100 mass parts, the polar polymerization solvent is in the range of 150 to 900 mass parts, and the cyclic compound is in the range of 15 to 750 mass parts.

20. (Currently Amended) The polyimide precursor liquid composition according to claim 18,

which is formed by polymerizing a monomer ~~oligomerizing polyamic acid~~ in the polar polymerization solvent, and thereafter ~~after to which~~ the cyclic compound is added.

21. (Currently Amended) A polyimide coating film, the film comprising that is obtained by converting a polyimide converted from a polyimide precursor liquid composition into an imide, the polyimide precursor liquid composition comprising:

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at least one type of tetracarboxylic dianhydride or derivative thereof;

at least one type of diamine or derivative thereof; and

a polar polymerization solvent;

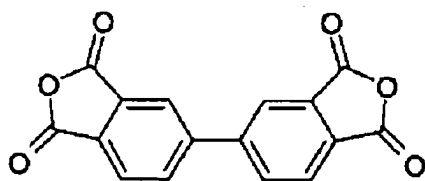
wherein the polyimide precursor liquid composition further includes a cyclic compound that is different from the polar polymerization solvent and has a 5 member ring structure that includes a carbonyl group (C=O bond);

wherein the cyclic compound has a boiling point of 200°C or more, comprises carbon, hydrogen and oxygen atoms, does not include hetero atoms of nitrogen, phosphorous and sulfur, ~~and~~ is at least one selected from the group consisting of ethylene carbonate, propylene carbonate, butylene carbonate and γ -butyrolactone, and is present in an amount that prevents discoloration of a polyimide produced from the polyimide precursor;

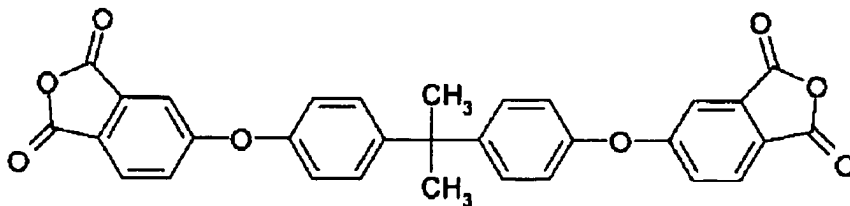
wherein the tetracarboxylic dianhydride comprises of a compound 3,3',4,4'-biphenyl tetracarboxylic dianhydride (BPDA) expressed by the following chemical formula A' and a compound 2,2-bis[3,4-(dicarboxyphenoxy)phenyl] propane dianhydride (BPADA) expressed by the following chemical formula B', where a molar ratio of the BPDA in tetracarboxylic dianhydride is from 50 mol% to 90 mol% and a molar ratio of the BPADA in the tetracarboxylic dianhydride is from 10 mol% to 50 mol%, and

wherein the diamine is a compound expressed by the following chemical formula

3



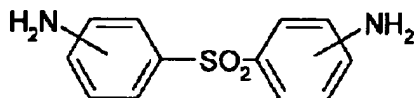
Formula A'



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Formula B'



Formula 3.

22. (Previously Presented) The polyimide coating film according to claim 21,
wherein when the polyimide coating film is a coating film that has a thickness of 50 ± 10 micrometers (μm) and is irradiated with light of 420 nanometers (nm), the polyimide coating film shows a transmittance of 50% or more.
23. (Previously Presented) The polyimide coating film according to claim 21,
wherein the glass transition temperature (T_g) of the polyimide coating film is 200°C or more.
24. (Previously Presented) The polyimide coating film according to claim 21,
wherein the water absorption of the polyimide coating film is 2.0 wt% or less.
25. (Previously Presented) The polyimide coating film according to claim 21,
wherein at least a single layer of a transparent, electrically conductive film is further formed on at least one side of the polyimide coating film.
26. (Previously Presented) The polyimide coating film according to claim 25,
wherein the electric resistance of the transparent, electrically conductive film is $1 \times 10^{-2} \Omega \cdot \text{cm}$ or less.
27. (Previously Presented) The polyimide coating film according to claim 21,
wherein at least a single layer of a transparent film further is formed on at least one side of the polyimide coating film.

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28. (Previously Presented) The polyimide coating film according to claim 27,
wherein at least a single layer of a transparent, electrically conductive film is
further formed on at least one side of the transparent film.
29. (Previously Presented) The polyimide coating film according to claim 28,
wherein the electric resistance of the transparent, electrically conductive film is $1 \times 10^{-2} \Omega\text{-cm}$ or less.